

Amendments to the Specification:

On page 1, after the title and before the first paragraph starting on line 1, please insert the following heading:

BACKGROUND

On page 3, before the first full paragraph starting on line 8, please add the heading:

SUMMARY

On page 3, please amend the paragraph spanning lines 13-20 to delete the first sentence thereof as follows:

~~This object is achieved according to the invention by a method as claimed in patent claim 1.~~ According to the invention, firstly two or more diagnostic image data records of the anatomical object that is to be visualized are recorded. Thereafter, an imaging specification is defined for imaging the image data onto a two-dimensional display plane, wherein in order to define the imaging specification anatomical features of the object are identified in at least one of the image data records. Finally, a combined two-dimensional representation is calculated by imaging the two or more image data records according to the previously defined imaging specification onto the common display plane.

On page 4, please amend the paragraph starting on line 21 and continuing to page 5, line 10 as follows:

~~One advantageous development of the method according to the invention is obtained as claimed in patent claim 2, wherein in~~ In order to define the imaging specification an object volume delimited by a curved surface is determined in which the anatomical features of the object that are to be identified in the image data

records are contained. The surface shape of the object volume may be shaped in a manner corresponding to the shape of the anatomical object to be examined, for example the heart or another organ. The surface of the object volume is for example firstly adapted to the outer contours of the anatomical object. The imaging specification then results from the result of this adaptation, according to which imaging specification the anatomical features contained in the object volume are projected[[,]]~~for example as claimed in patent claim 3~~. The image data lying outside the object volume are screened out. One possibility for adapting a curved surface which delimits an object volume to the outer contours of the anatomical object (the heart) to be examined is described in the abovementioned document by Etienne et al. One alternative possibility for calculating the two-dimensional representation ~~consists, as claimed in patent claim 4, in includes~~ assigning Cartesian coordinates within the display plane to non-Cartesian surface coordinates of the object volume. The object volume may for example have an ellipsoid shape. The surface of the ellipsoid can then be parameterized by polar coordinates. In order to display the projection in a two-dimensional manner on the surface of the object volume, the polar coordinates can be converted into corresponding Cartesian coordinates in a particularly simple manner. The imaging specification is thereby clearly defined in geometric terms, although account should be taken of the fact that distances between anatomical features of the object cannot be reproduced in a realistic manner. In principle, there may be used in the method according to the invention any type of imaging by means of which any curved surface in three-dimensional space is imaged onto a two-dimensional display plane.

On page 5, please amend the paragraph spanning lines 11-23 as follows:

~~As claimed in patent claim 5, the~~ The method according to the invention may advantageously be used for the combined displaying of morphological and functional image information relating to the examined anatomical object. In this case, the precisely defined imaging specification for imaging the image data onto the two-dimensional display plane is a prerequisite to it being possible for pathological

changes that can be detected in the morphological image data to be reliably assigned to corresponding disturbances that can be detected in the functional image data. ~~As claimed in patent claim 6, the~~ The functional image information may be obtained, as in the abovementioned MR perfusion method for example, by evaluating temporal sequences of morphological image data of the anatomical object. This is possible in particular when using the method according to the invention to examine coronary vessel disorders since, as mentioned above, incorrect functions of the myocardium can be successfully determined by assessing the wall thickness and the movement of the myocardium.

On page 5, please amend the paragraph spanning lines 24-27 as follows:

~~As claimed in patent claim 7, in the method according to the invention at~~ At least one of the image data records comprises a slice image of the anatomical object. Accordingly, the method according to the invention can be used to combine a number of slice images in a joint two-dimensional representation.

On page 5, please amend the paragraph spanning lines 28-33 as follows:

~~As claimed in patent claims 8 and 9, in the method according to the invention the~~ The image data records may be recorded by means of computer tomography, magnetic resonance or ultrasound. There is also the possibility of using different imaging modes to record the image data records. According to the invention, it is thus possible for example for image data obtained by ultrasound to be combined with MR image data in a joint representation.

On page 6, please amend the paragraph spanning lines 1-6 as follows:

A diagnostic imaging device ~~as claimed in patent claim 10~~ is suitable for carrying out the method according to the invention. Said diagnostic imaging device has recording means for recording three-dimensional image data records of an anatomical object, and computer means for visualizing the image data. The computer means are provided with program control, by means of which the above-described method according to the invention can be carried out.

On page 6, before the third paragraph which begins on line 14, please insert the following heading:

BRIEF DESCRIPTION OF THE DRAWINGS

On page 6, before the sixth paragraph which begins on line 21, please insert the following heading:

DETAILED DESCRIPTION

On page 7, please amend the second paragraph spanning lines 14-25 as follows:

In the next step, the actual visualization of the image data takes place, and this is shown in the bottom diagram in Fig. 1. In the example of the illustrated embodiment, a combined two- dimensional representation is calculated by imaging the image data records 2, 3, 4 and 5 according to the previously defined imaging specification onto a common display plane 8. For this purpose, Cartesian coordinates within the display plane 8 are assigned to the polar coordinates θ and (ϕ) by means of which the surface of the ellipsoid object volume 7 is parameterized. The morphology of the coronary arteries 2 can be seen very well in the two- dimensional representation. In particular, it can be seen in this representation that one of the

vessels has a stenosis 9. The projections of the slice images 3,4 and 5 in the display plane 8 show a lack of blood flow through the myocardial tissue in a region 10. Using the two-dimensional representation generated according to the invention, the treating physician can thus directly assign the pathological change 9 to the functional disturbance in the regions 10.

On page 8, after the last paragraph, please add the following paragraph:

The invention has been described with reference to the preferred embodiments. Modifications and alterations may occur to others upon reading and understanding the preceding detailed description. It is intended that the invention be construed as including all such modifications and alterations insofar as they come within the scope of the appended claims or the equivalents thereof.